

CLAIMS

I claim:

- 1 1. A process for the combustive destruction of noxious substances in a gas
2 stream which comprises injecting the gas stream in to a heated chamber
3 with sufficient oxygen to allow substantially complete combustion therein,
4 wherein hydrogen is also present in the chamber as a fuel gas.
- 1 2. A process according to Claim 1 in which the chamber comprises a heated
2 metal tube.
- 1 3. A process according to Claim 1 or Claim 2 in which the chamber is
2 heated by electrical means.
- 1 4. A process according to any preceding claim in which the hydrogen and
2 the oxygen are introduced in to the gas stream prior to the stream being
3 injected in to the chamber.
- 1 5. A process according to any preceding claim in which the mixture has a 10
2 to 150% stoichiometric excess of oxygen over the fuel gas.
- 1 6. A process according to Claim 5 in which the mixture has an 80 to 150%
2 stoichiometric excess of oxygen over the fuel gas.

- 1 7. A process according to any preceding claim in which the hydrogen is
2 present in at least the stoichiometric amount by volume in respect of the
3 species being combusted.
- 1 8. A process according to Claim 7 in which the hydrogen is present in at
2 least twice the stoichiometric amount by volume in respect of the species
3 being combusted.
- 1 9. A process according to Claim 7 or Claim 8 in which the hydrogen is
2 present in at least five times the stoichiometric amount by volume in
3 respect of the species being combusted.
- 1 10. The process according to claim 1 in which the mixture has a 10 to 150%
2 stoichiometric excess of oxygen over the fuel gas.
- 1 11. The process according to claim 10 in which the mixture has an 80 to
2 150% stoichiometric excess of oxygen over the fuel gas.
- 1 12. The process according to claim 11 in which the hydrogen is present in at
2 least the stoichiometric amount by volume in respect of the species being
3 combusted.
- 1 13. The process according to claim 12 in which the hydrogen is present in at
2 least twice the stoichiometric amount by volume in respect of the species
3 being combusted.

- 1 14. The process according to claim 12 in which the hydrogen is present in at
2 least five times the stoichiometric amount by volume in respect of the
3 species being combusted.
- 1 15. The process according to claim 13 in which the hydrogen is present in at
2 least five times the stoichiometric amount by volume in respect of the
3 species being combusted.
- 1 16. The process according to claim 1 in which the chamber comprises a
2 heated metal tube.
- 1 17. The process according to claim 16 in which the chamber is heated by
2 electrical means.
- 1 18. The process according to claim 17 in which the hydrogen and the oxygen
2 are introduced into the gas stream prior to the stream being injected in to
3 the chamber.
- 1 19. The process according to claim 18 in which the mixture has a 10 to 150%
2 stoichiometric excess of oxygen over the fuel gas.
- 1 20. The process according to claim 19 in which the mixture has an 80 to
2 150% stoichiometric excess of oxygen over the fuel gas.
- 1 21. The process according to claim 20 in which the hydrogen is present in at
2 least the stoichiometric amount by volume in respect of the species being
3 combusted.

- 1 22. The process according to claim 21 in which the hydrogen is present in at
2 least twice the stoichiometric amount by volume in respect of the species
3 being combusted.
- 1 23. The process according to claim 21 in which the hydrogen is present in at
2 least five times the stoichiometric amount by volume in respect of the
3 species being combusted.
- 1 24. The process according to claim 22 in which the hydrogen is present in at
2 least five times the stoichiometric amount by volume in respect of the
3 species being combusted.
- 1 25. The process according to claim 1 in which the chamber is heated by
2 electrical means.
- 1 26. The process according to claim 25 in which the hydrogen and the oxygen
2 are introduced into the gas stream prior to the stream being injected in to
3 the chamber.
- 1 27. The process according to claim 26 in which the mixture has a 10 to 150%
2 stoichiometric excess of oxygen over the fuel gas.
- 1 28. The process according to claim 27 in which the mixture has an 80 to
2 150% stoichiometric excess of oxygen over the fuel gas.

- 1 29. The process according to claim 28 in which the hydrogen is present in at
2 least the stoichiometric amount by volume in respect of the species being
3 combusted.
- 1 30. The process according to claim 29 in which the hydrogen is present in at
2 least twice the stoichiometric amount by volume in respect of the species
3 being combusted.
- 1 31. The process according to claim 29 in which the hydrogen is present in at
2 least five times the stoichiometric amount by volume in respect of the
3 species being combusted.
- 1 32. The process according to claim 30 in which the hydrogen is present in at
2 least five times the stoichiometric amount by volume in respect of the
3 species being combusted.